

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) A peptide of a size comprised between 5 and 40 amino acids, originating from a cytokine, characterized in that at least one of its amino acids comprises at least one of its atoms separated by a distance  $d$  of less than 5 angströms from an atom of the receptor ~~corresponding to~~ for said cytokine when said cytokine is bound to the receptor, the spacing  $d$  being evaluated on the basis of structural data, with the exception
  - of the peptides comprised between the 2nd and 3rd cysteine of h RANTES, MIP 1 $\alpha$  and MIP 1 $\beta$ , and
  - of the peptides comprised between amino acids 123 and 140 of IFN  $\alpha$ , and with the proviso that said peptide is not the peptide of SEQ ID NO:1.

2. (Currently Amended) A peptide according to claim 1, characterized in that two of its consecutive amino acids comprise at least one of their atoms separated by a distance  $d$  of less than 5 angströms from an atom of the receptor

corresponding to for said cytokine when said cytokine is bound to the receptor.

3. (Previously presented) A peptide according to claim 1, characterized in that it is chosen from the fragments of the following cytokines: TGF  $\beta$ , IL1  $\beta$ , VEGF, TNF  $\alpha$ , IFN  $\alpha$  and  $\gamma$ , IL 4, 5, 6, 10, 12, 13, 15, 18, 23, IP10, MIP 1 $\alpha$  and 1 $\beta$ , and Rantes.

4. (Previously presented) A peptide according to claim 1, characterized in that it is chosen from the fragments of the following cytokines: TGF  $\beta$ , IL1  $\beta$ , VEGF, TNF  $\alpha$ , IFN  $\gamma$ , IL 4, 5, 6, 10, 12, 13, 15, 18, 23.

5. (Previously presented) A peptide according to claim 1, characterized in that d is less than 4 angströms.

6. (Previously presented) A peptide according to claim 1 characterized in that 3 or 4 consecutive amino acids of the cytokine peptide correspond to this same spacing criterion.

7. (Previously presented) A peptide according to claim 1 characterized in that it comprises less than 30 amino acids.

8. (Currently amended) A peptide as defined in claim 1, chosen from or originating from those the names of which follow:

- hIL1 $\beta$  (Human Interleukin 1 beta)
  - 1-APYRSILNCTH-10 (SEQ ID No. 1)
  - 29-LHLQGQDMEQQ-39 (SEQ ID No. 2)
  - 123-STSQAENMPV-132 (SEQ ID No. 3)
- hvEGF (Human vascular Endothelial Growth Factor)
  - 73-IMRIKPHQGQHIGEMS-88 (SEQ ID No. 4)
- hTNF $\alpha$  (Human Tumor Necrosis Factor alpha)
  - 20-PQAEGQLQWLNRANALLANGVELRDNQLVVPSEG-54 (SEQ ID No. 5)
  - 80-ISRIAVSYQTKVNLLS-95 (SEQ ID No. 6)
  - 124-FQLEKGDRLSAEINR-138 (SEQ ID No. 7)
- hIFN $\gamma$  (Human Interferon gamma)
  - 1-MQDPYVKEAENLKKYFNAGHSVDVADNGTLFLGILKN-36 (SEQ ID No. 8)
  - 118-MAELSPAAKTGKRKRS-133 (SEQ ID No. 9)
- hIL10 (Human Interleukin 10)

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20-PNMLRDLRDAFSRVKTFFQMKDQLDNLLKE-50  (SEQ ID No. 10)
- hIL4 (Human Interleukin 4)  5-ITLQEIIKTLNSL-17 (SEQ ID No. 11)  70-AQQFHRHKQLIRFLKRLDRNLWGLAG-95 (SEQ ID No. 12)
- hIL12p40 (Human Interleukin 12 under unite p40)  80-LLLHKKEDGIWSTDILKDQKEPKNKTFLRCE-110  (SEQ ID No. 13)  135-KSSRGSSDPQG-145 (SEQ ID No. 14)
- hIL18 (Human Interleukin 18)  1-YFGKLESKLSVIRNLNDQVLFIDQGNRPLFEDMTD-35  (SEQ ID No. 15)  68-CEKISTLSCEN-78 (SEQ ID No. 16)  141-EDELGDRSIMFTVQNED-157 (SEQ ID No. 17)
- hIP10 (Human Interferon gamma inducible protein)  39-VEIIATMKKGEKRCLNPEKA-60 (SEQ ID No. 18)
- hIL5 (Human Interleukin 5)  1-IPTSALVKETLALLSTHRTLLIANET-26 (SEQ ID No. 19)  96-LQEFLGVMNTEWI-108 (SEQ ID No. 20)
- hTGF $\beta$ 2 (Human Transforming Growth Factor beta type 2)  25-KRDLGWKWIHE-35 (SEQ ID No. 21)  87-TILYYIGKTPKIEQ -100 (SEQ ID No. 22)
- hIL15 (Human Interleukin 15)

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1-ANWVNVISDLKKI-13 (SEQ ID No. 23)
74-SSNGNVTESGCKECEELEKKNIKEFLQSFVHIVQMF-111 (SEQ ID No. 24)
- hIL6 (Human Interleukin 6) 28-KQIRYILDGISA-39 (SEQ ID No. 25) 114-RAVQMSTKVLIQFLQKKAKNLDAITTPDPTTNASLL-149 (SEQ ID No. 26)
- hMIP1 $\alpha$ (Human Macrophage Inflammatory Protein alpha) 51-ADPSEEWVQKYVSDLELSA -69 (SEQ ID No. 27)
- hMIP1 $\beta$ (Human Macrophage Inflammatory Protein beta) 52-ADPSESWVQEYVYDLELN-69 (SEQ ID No. 28)
- hIL13 (Human Interleukin 13) 8-TALRELIEEL-17 (SEQ ID No. 29) 57-CSAIEKTQRMLSGFCPHKVSAGQFSS-82 (SEQ ID No. 30)
- hIL23 (Human Interleukin 23) 52 GHMDLREEGDEETT 65 (SEQ ID No. 31) 115 LLPDSPVGQLHASLLGLSQ 133 (SEQ ID No. 32) 160 LLRFKILRSLQAFVAVAARV 179 (SEQ ID No. 33)
- hRANTES (Human Regulated upon Activation Normal T-cell expressed) 51-ANPEKKWVREYINSLEMS-68 (SEQ ID No. 34)

-hIFN $\alpha$  (Human Interferon alpha)

12-RRTLMLLAQMRK-23 (SEQ ID No. 35)

95-LEACVIQGVGVETPLMKEDSILAVRK-121 (SEQ ID No. 36)

or a fragment of said peptides.

9. (Previously presented) A peptide derivative as defined in claim 1 by deletion, substitution, addition, cyclization, stereochemical modification (use of D series amino acids), or functionalization (such as acylation) of one or more amino acids of said peptide.

10. (Previously presented) An immunogenic compound characterized in that it comprises a peptide or peptide derivative as defined in claim 1, it being understood that it does not comprise other epitopes of said cytokine and in that it is capable of generating in a subject antibodies recognizing the native cytokine.

11. (Previously presented) A peptide or peptide derivative or immunogenic compound as defined in claim 1 or comprised between amino acids 123 and 140 of IFN  $\alpha$ , for its use in a method of therapeutic treatment of the human or animal body.

12. (Previously presented) A method for the treatment or prevention of diseases linked to an excess or to the presence of cytokines, comprising administering a peptide or peptide derivative or immunogenic compound as defined in claim 1 or comprised between amino acids 123 and 140 of IFN  $\alpha$ .

13. (Previously presented) A method for the treatment of an auto-immune disease, comprising administering a peptide or peptide derivative or immunogenic compound as defined in claim 1 or comprised between amino acids 123 and 140 of IFN  $\alpha$ .

14. (Previously presented) A pharmaceutical composition which contains at least one peptide or peptide derivative or immunogenic compound as defined in claim 1 or comprised between amino acids 123 and 140 of IFN  $\alpha$ , as active ingredient.